HISTORIC AMERICAN ENGINEERING RECORD

INDEX TO PHOTOGRAPHS

IDAHO NATIONAL ENGINEERING LABORATORY, SPERT-I & POWER BURST FACILITY AREA
Scoville vicinity
Butte County
Idaho

HAER ID-33-F

INDEX TO BLACK AND WHITE PHOTOGRAPHS

The following large-format photos, historical photos, and photos of architectural drawings are arranged in two groups. The first depict the SPERT-I and Power Burst Facility (PBF) Reactor Area; the second, the Control Area. In each group, large-format photos are listed first, followed by historical photos, and then architectural drawings.

For additional narrative and photographic documentation about the SPERT-I and PBF programs, please refer to the historical report for HAER ID-33-F. Consult the bibliography of that report for the titles of five additional HAER reports on other programs conducted at the INEEL.

All of the drawings photographed for this index were made from aperture cards (a microfilm medium) because INEEL destroyed the original drawings several years ago. Thus, the "negative" images are black-on-white. The prints are white-on-black. A reader may find it more convenient to examine drawings by looking at the negatives instead of the prints.

Note: SPERT buildings used the prefix PER, for "power excursion reactor." Architects for the Power Burst Facility buildings sometimes used the prefix "PBF" to identify the drawings. Some photos of drawings may show such PNF prefixes.

SPERT-I and PBF Reactor Complex

HAER photographs ID-33-F-1 through ID-33-F-29 are large format views of extant SPERT and PBF buildings as they appeared prior to demolition in 2003 and 2004. Photo dates are noted. The photographer was Mike Crane.

ID-33-F-1 SPERT-I contextual view of instrument cell building, PER-606. South facade. Camera facing northwest. PBF Cooling Tower in view at right. High bay of PBF Reactor Building, PER-602, is further to right. PBF-625 at left edge of view. Date: August 2003. INEEL negative no. HD-35-3-4

ID-33-F-2	SPERT-I, Instrument Cell Building (PER-606). West facade. Camera facing northeast. Date: August 2003. INEEL negative no. HD-35-3-1
ID-33-F-3	SPERT-I, Instrument Cell Building (PER-606). North facade. Date: August 2003. INEEL negative no. HD-35-3-3
ID-33-F-4	SPERT-I, Instrument Cell Building (PER-606). East facade. Camera facing southwest. Date: August 2003. INEEL negative no. HD-35-3-2
ID-33-F-5	SPERT-I, Instrument Cell Building (PER-606). Oblique view of north and east facades. Camera facing southwest. Date: August 2003. INEEL negative no. HD-35-4-1
ID-33-F-6	Power Burst Facility (PBF), PER-620, contextual and oblique view. Camera facing northwest. South and east facade. The 1980 west-wing expansion is left of center bay. Concrete structure at right is PER-730. Date: March 2004. INEEL negative no. HD-41-2 -3
ID-33-F-7	PBF (PER-620) south facade. Camera facing north. Note pedestrian bridge crossing over conduit. Central high bay contains reactor room and canal. Date: March 2004. INEEL negative no. HD-41-2-1
ID-33-F-8	PBF (PER-620) east facade. Camera facing west. Date: March 2004. INEEL negative no. HD-41-2-2
ID-33-F-9	PBF (PER-620) north facade. Camera facing south. Small metal shed at right is Stack Gas Monitor Building, PER-629. Date: March 2004. INEEL negative no. HD-41-2-4
ID-33-F-10	PBF (PER-620) west facade. Camera facing east. Note 1980 addition on south side of west wall. Date: March 2004. INEEL negative no. HD-41-3-3
ID-33-F-11	PBF detail of metal pedestrian bridge over exposed control cables, which run between Control (PER-619) and Reactor Buildings (PER-620). Camera facing northwest. Southwest corner of PER -620 at upper right of view. Date: May 2004. INEEL negative no. HD-41-6-3
ID-33-F-12	PBF (PER-620) interior of Reactor Room. Camera facing south from stairway platform in southwest corner (similar to platform in view at left). Reactor was beneath water in circular tank. Fuel was stored in the canal north of it. Platform and apparatus at right is reactor bridge with control rod mechanisms and actuators. The entire apparatus swung over the reactor and pool during operations. Personnel in view are involved with decontamination and preparation of facility for demolition. Note rails near ceiling for crane; motor for rollup door at upper center of view. Date: March 2004. INEEL negative no. HD-41-3-2
ID-33-F-13	PBF (PER-620) interior. Detail view of actuator platform and control rod mechanism. Camera facing easterly from floor level. Reactor pool at lower left of view. Date: March 2004. INEEL negative no. HD-41-3-3
ID-33-F-14	PBF (PER-620) interior. Detail view of door in north wall of reactor bay.

	Camera facing north. Note tonnage weighting of hatch covers in floor. Date: May 2004. INEEL negative no. HD-41-8-2
ID-33-F-15	PBF (PER-620) interior. Detail view across top of reactor tank. Camera facing northeast. Air tubing is cleanup equipment. Note projections from reactor structure above water level in tank. Date: May 2004. INEEL negative no. HD-41-5-1
ID-33-F-16	PBF (PER-620) interior, basement level. Concrete wall shows outline of reactor basin. Sign says, "Flashing Light - Reactor On Evacuate Area." Date: May 2004. INEEL negative no. HD-41-5-3
ID-33-F-17	PBF (PER-620) interior, basement level. Sampling equipment. Date: May 2004. INEEL negative no. HD-41-5-4
ID-33-F-18	PBF (PER-620) interior, basement level. Detail of coolant piping. Date: May 2004. INEEL negative no. HD-41-5-2
ID-33-F-19	PBF (PER-620) interior, first basement level. Sampling equipment. Date: March 2004. INEEL negative no. HD-41-4-1
ID-33-F-20	PBF (PER-620) interior, first basement. Detail of valves and other penetrations along wall. Bricks are made of high density shielding materials. Date: March 2004. INEEL negative no. HD-41-4-2
ID-33-F-21	PBF (PER-620) interior, second basement level. Coolant and tank piping. Mark on vertical pipe says, "H.P. Demin. Water." (High pressure demineralized water.) Date: March 2004. INEEL negative no. HD-41-4-3
ID-33-F-22	PBF (PER-620) interior. Counting room, main floor. Date: May 2004. INEEL negative no. HD-41-6-1
ID-33-F-23	PBF (PER-620) interior. System control racks, secondary control and equipment room. Date: May 2004. INEEL negative no. HD-41 -6-2
ID-33-F-24	PBF. Oblique and contextual view of PBF Cooling Tower, PER -720. Camera facing northeast. Auxiliary Building (PER-624) abuts Cooling Tower. Demolition equipment has arrived. Date: August 2003. INEEL negative no. HD-35-11-2
ID-33-F-25	PBF Cooling Tower (PER-720) and its Auxiliary Building (PER -625). Camera facing west shows east facades. Center pipe carried secondary coolant water from reactor. Building to distributor basin. Date: August 2003. INEEL negative no. HD-35-10-1
ID-33-F-26	PBF Cooling Tower (PER-720), and Auxiliary Building (PER -624). Camera faces north to show south facades. Oblong vertical structure at left of center is weather shield for stairway. Date: August 2003. INEEL negative no. HD-35-10-4
ID-33-F-27	PBF Cooling Tower (PER-720). Camera faces east to show west facade. Sloped (louvered) panels in this and opposite facade allow air to enter tower and cool water falling on splash bars within. Date: August 2003. INEEL negative no. HD-35-10-2

ID-33-F-28 PBF Cooling Tower (PER-720). Camera faces south to show north facade. Note enclosed stairway. Date: August 2003. INEEL negative no. HD-35-10-3

ID-33-F-29 PBF Cooling Tower (PER-720). Close-up detail of louvered wall panels on south facade. Date: August 2003. INEEL negative no. HD-35-11-1

HAER Photographs ID-33-F-30 through ID-33-F-87 are historical photographs of the SPERT-I and PBF Reactor Area.

ID-33-F-30 SPERT-1. Contextual aerial view of SPERT-I Reactor Pit Building (PER-605) at top of view, and its accessories: the earth-shielded instrument cell (PER-606) immediately adjacent to it; the Guard House (PER-607) to its right; and the Terminal Building in lower center of view (PER-604). Camera faces west. Road and buried line leaving view at right lead to Control Building (PER-601) out of view. Sagebrush vegetation has been scraped from around buildings. Photographer: R.G. Larsen. Date: June 6, 1955. INEEL negative no. 55-1477

ID-33-F-31 SPERT-I Reactor Pit Building (PER-605) under construction. Poured concrete foundation will enclosure a "Pit" into which the reactor vessel will be placed. Steel framework has been erected. To left of view is instrument cell (PER-606), constructed of concrete block. Photographer: R.G. Larsen. Date: April 22, 1955. INEEL negative no. 55-1000

ID-33-F-32 SPERT-I. Detail view of Reactor Pit Building (PER-605) and Instrument Cell (PER-606). Earth shielding covers side of Cell Building next to reactor. Instrumentation required protection from radiation emitted during reactor operation. Photographer: R.G. Larsen. Date: May 20, 1955. INEEL negative no. 55-1290

ID-33-F-33 SPERT-I Reactor Pit Building (PER-605). Earth shielding protect adjacent Instrument Cell (PER-606). Security fencing surrounds complex, to which gate entry is provided next to Guard House (PER-607). Note gravel road leading to control area. Earth-covered conduit leads from instrument cell to terminal building out of view. Photographer: R.G. Larsen. Date: June 22, 1955. INEEL negative no. 55-1701

ID-33-F-34 SPERT-I Reactor Pit Building (PER-605) from contrasting direction as photo above (ID-33-F-32). Note Guard House door, security fencing around facility. Photographer: R.G. Larsen. Date: July 22, 1955. INEEL negative no. 55-1702.

ID-33-F-35 SPERT-I Terminal Building (PER-604) is under construction in foreground, with vertical metal siding partially affixed to gable end of building. Utility lines are laid in shallow trench to Reactor Pit and Instrument Cell Buildings also under construction in distance. Photographer: R.G. Larsen. Date: April 22, 1955. INEEL negative no. 55-1001

ID-33-F-36	SPERT-I Terminal Building (PER-604). Concrete foundation is at grade. Steel frame has been erected, and some siding has been affixed. Photographer: R.G. Larsen. Date: April 22, 1955. INEEL negative no. 55-1003
ID-33-F-37	SPERT-I Terminal Building (PER-604). Oblique view of front entry and one side. Electrical transformers at right of building. Note "Butler" logo. Photographer: R.G. Larsen. Date: June 22, 1955. INEEL negative no. 55-1700
ID-33-F-38	SPERT-I Terminal Building (PER-604) with view into interior. Storage tanks and equipment in view. Camera facing west. Photographer: R.G. Larsen. Date: May 20, 1955. INEEL negative no. 55-1291
ID-33-F-39	PBF Cooling Tower under construction. Cold water basin is five feet deep. Foundation and basin walls are reinforced concrete. Camera facing west. Pipe openings through wall in front are outlets for return flow of cool water to reactor building. Photographer: John Capek. Date: September 4, 1968. INEEL negative no. 68 -3473
ID-33-F-40	PBF Cooling Tower. Camera facing southwest. Round piers will support Tower's wood "fill" or "packing." Black-topped stack in far distance is at Idaho Chemical Processing Plant. Photographer: John Capek. Date: October 16, 1968. INEEL negative no. 68-4097
ID-33-F-41	PBF Cooling Tower detail. Camera facing southwest. Wood fill rises from foundation piers of cold water basin. Photographer: Kirsh. Date: May 1, 1969. INEEL negative no. 69-2826
ID-33-F-42	PBF Cooling Tower detail. Camera facing southwest into north side of Tower. Five horizontal layers of splash bars constitute fill decks, which will break up falling water into droplets, promoting evaporative cooling. Louvered faces, through which air enters tower, are on east and west sides. Louvers have been installed. Support framework for one of two venturi-shaped fan stacks (or "vents") is in center top. Orifices in hot basins (not in view) will distribute water over fill. Photographer: Kirsh. Date: May 15, 1969. INEEL negative no. 69-3032
ID-33-F-43	PBF Cooling Tower. View from high-bay roof of Reactor Building (PER-620). Camera faces northwest. East louvered face has been installed. Inlet pipes protrude from fan deck. Two redwood vents under construction at top. Note piping, control, and power lines at sub-grade level in trench leading to Reactor Building. Photographer: Kirsh. Date: June 6, 1969. INEEL negative no. 69 -3466
ID-33-F-44	PBF Cooling Tower. View of stairway to fan deck. Vents are made of redwood. Camera facing southwest toward north side of Cooling Tower. Siding is corrugated asbestos concrete. Photographer: Kirsh. Date: June 6, 1969. INEEL negative no. 69-3463
ID-33-F-45	PBF Cooling Tower. Hot deck of Cooling Tower with fan motors in place. Fan's propeller blades (not in view) rotate within lower portion of vents.

Inlet pipe is a left of view. Contractor's construction buildings in view to right. Photographer: Larry Page. Date: June 30, 1969. INEEL negative no. 69-3781

ID-33-F-46 PBF Cooling Tower and it Auxiliary Building (PER-624) to left of tower. Camera facing west and the east louvered face of the tower. Details include secondary coolant water riser piping and flow control valves (butterfly valves) to distribute water evenly to all sections of tower. Photographer: Holmes. Date: May, 20, 1970. INEEL negative no. 70-2322

ID-33-F-47 PBF Cooling Tower contextual view. Camera facing southwest. West wing and north facade (rear) of Reactor Building (PER-620) is at left; Cooling Tower to right. Photographer: Kirsh. Date: November 2, 1970. INEEL negative no. 70-4913

ID-33-F-48 PBF Cooling Tower Auxiliary Building (PER-624) interior. Camera facing north. Deluge valves and automatic fire protection piping for Cooling Tower. Photographer: Holmes. Date: May 20, 1970. INEEL negative no. 70-2323

ID-33-F-49 SPERT-I/PBF. Contextual aerial view after PBF had begun operating, but prior to expansion of southwest corner of Reactor Building (PER-620). Camera facing northeast. Reactor Building in center of view. Cooling Tower (PER-720) to its left. Warehouse (PER-625) at lower left was built in 1966. SPERT-I Reactor Building (PER-605) and Instrument Cell Building (PER-604) at right of view. Buried cables and piping proceed from PBF toward lower edge of view to Control Building further south and out of view. Photographer: Farmer. Date: March 26, 1976. INEEL negative no. 76-1344

ID-33-F-50 PBF Reactor Building (PER-620). Aerial view of early construction. Camera facing northwest. Excavation and concrete placement in two basements are underway. Note exposed lava rock. Photographer: Farmer. Date: March 22, 1965. INEEL negative no. 65-2219

ID-33-F-51 PBF Reactor Building (PER-620) under construction. Aerial view with camera facing northeast. Steel framework is exposed for west wing and high bay. Concrete block siding on east wing. Railroad crane set up on west side. Note trenches proceeding from front of building. Left trench is for secondary coolant and will lead to Cooling Tower. Shorter trench will contain cables leading to control area. Photographer: Larry Page. Date: March 22, 1967. INEEL negative no. 67-5025

ID-33-F-52 PBF Reactor Building (PER-620). Construction view shows native lava rock surrounding basement excavation and general complexity of planning required to build the PBF. A three-inch low-pressure air line protrudes from wall just below left center. Date: February 21, 1967. Photographer: Larry Page. INEEL negative no. 67-1125

ID-33-F-53 PBF Reactor Building (PER-620). Camera facing southeast in second basement. Round form and reinforcing steel surround reactor vessel pit,

which will be heavily shielded by several feet of concrete. Block-out is for door to sub-pile room. Rectangular form and rebar beyond pit is for canal wall. Photographer: John Capek. Date: March 10, 1967. INEEL negative no. 67-1643

ID-33-F-54 PBF Reactor Building (PER-620). Camera faces north into high-bay/reactor pit area. Inside from for reactor enclosure is in place. Photographer: John Capek. Date: March 15, 1967. INEEL negative no. 67-1769

ID-33-F-55 PBF Reactor Building (PER-620). Floor at left of view is floor of first basement. Photographer: Farmer/Capek. Date: March 17, 1967. INEEL negative no. 67-1753

ID-33-F-56 PBF Reactor Building (PER-620). Canal takes shape, with rebar and concrete placement underway. Photographer: John Capek. Date: August 16, 1967. INEEL negative no. 67-4370

ID-33-F-57 PBF Reactor Building (PER-620). Camera faces southeast. Concrete placement will leave opening for neutron camera to be installed later. Note vertical piping within rebar. Photographer: John Capek. Date: July 6, 1967. INEEL negative no. 67-3514

ID-33-F-58 PBF Reactor Building (PER-620). Camera faces south along west wall. Gap between native lava rock and concrete basement walls is being backfilled and compacted. Wire mesh protects workers from falling rock. Note penetrations for piping that will carry secondary coolant water to Cooling Tower. Photographer: Holmes. Date: June 15, 1967. INEEL negative no. 67-3665

ID-33-F-59 PBF Reactor Building (PER-620). Camera is in cab of electric-powered rail crane and facing east. Reactor pit and storage canal have been shaped. Floors for wings on east and west side are above and below reactor in view. Photographer: Larry Page. Date: August 23, 1967. INEEL negative no. 67-4403

ID-33-F-60 PBF Reactor Building (PER-620). Camera facing south end of high bay. Vertical-lift door is being installed. Later, pneumatic seals will be installed around door. Photographer: Kirsh. Date: September 31, 1968. INEEL negative no. 68-3176

ID-33-F-61 PBF Reactor Building (PER-620). Camera facing north toward south facade. Note west-wing siding on concrete block; high-bay siding of metal. Excavation and forms for signal and cable trenches proceed from building. Photographer: Kirsh. Date August 20, 1968. INEEL negative no. 68-3332

ID-33-F-62 PBF Reactor Building (PER-620). Camera in first basement, facing south and upward toward main floor. Cable trays being erected. Photographer: Kirsh. Date: May 20, 1969. INEEL negative no. 69 -3110

ID-33-F-63 PBF Reactor Building (PER-620). Camera in second basement near

sub-pile room (directly below reactor vessel). Door and penetrations lead to sub-pile room. Date: August 15, 1969. Photographer: Larry Page. INEEL negative no. 69-4310

ID-33-F-64 PBF Reactor Building (PER-620). Camera is facing east and down into canal and storage pit for fuel rod assemblies. Stainless steel liner is being applied, temporarily covered with plywood for protection. Photographer: John Capek. Date: August 29, 1969. INEEL negative no. 69-4641

ID-33-F-65 PBF Reactor Building (PER-620). Camera on main floor faces south (open) doorway. In foreground is canal gate, lined with stainless steel and painted with protective coatings. Reactor pit is round with protective coatings. Reactor put is round form discernible beyond. Lifting beams and rigging are in place for a load test before reactor vessel arrives. Photographer: John Capek. Date: January 26, 1970. INEEL negative no. 70-347

ID-33-F-66 PBF Reactor Building (PER-620). Camera faces south toward vertical-lift door, which is closed. Note crane and its trolley positioned near door; its rails along side walls. Reactor vessel and lifting beams are positioned above reactor pit. Photographer: John Capek. Date: January 9, 1970. INEEL negative no. 70-132

ID-33-F-67 PBF Reactor Building (PER-620). Reactor vessel arrives from gate city steel at door of PBF. On flatbed, it is too high to fit under door. Photographer: Larry Page. Date: February 13, 1970. INEEL negative no. 70-737

ID-33-F-68 PBF Reactor Building (PER-620). After lowering reactor vessel onto blocks, it is rolled on logs into PBF. Metal framework under vessel is handling device. Various penetrations in reactor bottom were for instrumentation, poison injection, drains. Large one, below center "manhole" was for primary coolant. Photographer: Larry Page. Date: February 13, 1970. INEEL negative no. 70-736

ID-33-F-69 PBF Reactor Building (PER-620). Bottom of reactor vessel shows beyond handling beams. Hole at right is opening for coolant pipe. Photographer: Larry Page. Date: February 13, 1970. INEEL negative no. 70-989

ID-33-F-70 PBF Reactor Building (PER-620). Reactor vessel has been tilted upwards, but handling device is too large to fit into pit. Workman uses torch to cut metal. Contrast the scale of the man vis-a-vis the (massive!) vessel. Photographer: Holmes. Date: February 26, 1970. INEEL negative no. 70-981

ID-33-F-71 PBF Reactor Building (PER-620). Reactor vessel ready for insertion into pit. Photographer: Holmes. Date: February 26, 1970. INEEL negative no. 70-991

ID-33-F-72 PBF Reactor Building (PER-620). Reactor vessel slips delicately into pit. Photographer: Holmes. Date: February 26, 1970. INEEL negative no. 70-982

ID-33-F-73	PBF Reactor Building (PER-620). Reactor vessel descends into pit, still under control of handling beams and pulleys. Vertical-lift door (to Reactor Building) is in background. Photographer: Holmes. Date: February 26, 1970. INEEL negative no. 70-986
ID-33-F-74	PBF Reactor Building (PER-620). Cubicle 10 area in basement. High-density shielding bricks will protect personnel from radiation coming from in-pile-tube coolant and blowdown tank. Photographer: John Capek. Date: January 26, 1970. INEEL negative no. 70-348
ID-33-F-75	PBF Reactor Building (PER-620). Piping in basement fills space. Secondary coolant flowed through carbon steel pipe; primary coolant, through stainless steel. Photographer: Larry Page. Date: April 30, 1970. INEEL negative no. 70-2080
ID-33-F-76	PBF Reactor Building (PER-620). Camera looks down into reactor pit at tip of core container. Photographer: John Capek. Date: June 28, 1970. INEEL negative no. 70-3265
ID-33-F-77	PBF Reactor Building (PER-620). In sub-pile room, camera faces southeast and looks up toward bottom of reactor vessel. Upper assembly in center of view is in-pile tube as it connects to vessel. Lower lateral constraints and rotating control cable are in position. Other connections have been bolted together. Note light bulbs for scale. Photographer: John Capek. Date: August 21, 1970. INEEL negative no. 70-3494
ID-33-F-78	PBF Reactor Building (PER-620). Cubicle 10. Camera facing southeast. Loop pressurizer on right. Other equipment includes loop strained, control valves, loop piping, pressurizer interchanger, and cleanup system cooler. High-density shielding brick walls. Photographer: Kirsh. Date: November 2, 1970. INEEL negative no. 70-4908
ID-33-F-79	PBF Reactor Building (PER-620). Cubicle 10 detail. Camera facing west toward brick shield wall. Valve stems against wall penetrate through east wall of cubicle. Photographer: John Capek. Date: August 19, 1970. INEEL negative no. 70-3469
ID-33-F-80	PBF Reactor Building (PER-620) basement. Camera facing north. Cooling air compressor for control rods; inner cooler and after cooler; associated piping. Photographer: John Capek. Date: August 21, 1970. INEEL negative no. 70-3493
ID-33-F-81	PBF Reactor Building (PER-620). Inside high bay on main floor. Reactor pit is covered with metal platform. Control rod actuating mechanisms protrude above bridge. Reactor is still two years away from its first critically. Note floor hatch at lower right of view and elsewhere. Photographer: Kirsh. Date: November 19, 1970. INEEL negative no. 70-5216
ID-33-F-82	PBF Reactor Building (PER-620). Camera looks into reactor vessel. Control rods are positioned at outer perimeter; transient rods, at inner perimeter. Photographer: Larry Page. Date: November 2, 1972. INEEL

negative no. 72-5266

ID-33-F-83 PBF Reactor Building (PER-620) basement, inside cubicle 13. Lead bricks shield the fission product detection system (FPDS). The system detected fission products in pressure loop from in-pile tube. shielding was to prevent other radiation in cubicle from interfering. Assembly of bricks in foreground will slide back to enclose and shield equipment in the three chambers. Date: 1982. INEEL negative no. 82-6376

ID-33-F-84 PBF Reactor Building (PER-620) basement. Workers wearing protective gear work inside cubicle 13 on the fission product detection system. Man on left is atop shielded box shown in previous photo. Posture of second man illustrates waist-high height of shielding box. His hand rests on the access panel, which has been filled with lead bricks and which has been slid shut to enclose detection instruments within box. Photographer: John Capek. Date: January 24, 1983. INEEL negative no. 83-41-3-5

ID-33-F-85 PBF Reactor Building (PER-620). Fuel rod test assembly is on display at PBF. Date: 1982. INEEL negative no. 82-4893

ID-33-F-86 PBF Reactor Building (PER-620). Detail of fuel test assembly in preparation for test. When complete, it will fit into in-pile tube. The maximum outside diameter of which must be about 8.25 inches. Date: 1982. INEEL negative no. 82-4908

ID-33-F-87 PBF Reactor Building (PER-620). PBF crane holds fuel test assembly aloft prior to lowering into reactor for test. Date: 1982. INEEL negative no. 82-4909

Drawings ID-33-F-88 through ID-33-F-105 are of the SPERT-I and PBF Reactor Area.

ID-33-F-88 SPERT-I plot plan, showing reactor and control areas after 1956 addition to PER-601. Includes reactor-area buildings PER-605, -606, and -607; Terminal Building (PER-604), and control-area buildings PER-601, -602, -603 along with associated parking areas and fencing. Vicinity map shows relationship of SPERT-I to SPERT-II, SPERT-III, central facilities area (at west end of E. Portland Avenue) and Highways 20 and 26. Idaho Operations Office PER-103-IDO-1. Date: December 1955. INEEL index no. 760-0103-396-109112

ID-33-F-89 SPERT-I Reactor Pit Building (PER-605) floor and foundation plans. Idaho Operations Office PER-605-IDO-1. Date: February 1955. INEEL index no. 761-0605-00-396-109181

ID-33-F-90 SPERT-I Instrument Cell Building (PER-606) elevation; plan of Guard House (PER-607); elevations for Pit Building (PER-605) southwest, southeast, and northeast sides. Earthen shield is mounded between back wall of Instrument Cell Building and the southwest elevation of Pit Building. Detail of filtered louver in door of Instrument Cell Building. Idaho Operations Office PER -605-IDO-3. INEEL index no.

761-0605-00-396-109183

ID-33-F-91 SPERT-I Reactor Pit Building (PER-605) sections and details. Section D-D shows relationship between pit and roof elevation of the building. Profile of earth fill between Pit Building and Instrument Cell Building. Details of valve and sump pits. Idaho Operations Office PER-605-IDO-2. INEEL index no. 761-0605-60 -396-109182

ID-33-F-92 SPERT-I Terminal Building (PER-604). Floor plan and sections. Heating system was improved a few months after original proved inadequate. Section A-A shows profile of metal building with low-sloped gable roof. IDO Drawing PER-604-IDO-5. Date: September 1955. INEEL index no. 761-0604-00-396-109180

ID-33-F-93 General layout of reactor and control areas upon advent of power burst facility (PBF). Shows relationship of PBF to SPERT-I, -II, III, and -IV. Ebasco Services 1205-PER/PBF-U-102. Date: July 1965. INEEL index no. 761-0100-00-205-123006

ID-33-F-94 PBF Reactor Building (PER-620). Plot plan shows layout, including auxiliary buildings: Emergency Generator (621), Hose House (622), Cooling Tower Auxiliary (624), Maintenance and Storage Warehouse (625), Gas Cylinder Storage (627), Hose House (628), Cooling Tower (720), Substation (719), and other features. Road connections between PBF Reactor, its control building, and SPERT-I site. Note cable trenches along road to control building. Date: July 1965. Ebasco Services, PER-U-101. INEEL index no. 761-0100-00-205-123005

ID-33-F-95 PBF Reactor Building (PER-620). Elevations of Reactor Building facades after southwest corner was expanded. This drawing replaced earlier elevation drawings. Date: August 1980. INEEL index no. 761-0620-00-220-414318, Sheet 2 of 2

ID-33-F-96 PBF Reactor Building (PER-620). Roof plan after southwest corner expansion. Includes list of general notes and legend of abbreviations. INEEL index no. 761-0620-00-220-414318, Sheet 1 of 2

ID-33-F-97 PBF Reactor Building (PER-620). Floor plan for main floor. This drawing replaced Ebasco drawing 1205-PER/PER 620-A-2. EG&G drawing. Date: January 1980. INEEL index no. 414313 (serial no.)

ID-33-F-98 PBF Reactor Building (PER-620) floor plans for first and second basements. Cubicles 10 and 13 at upper corners. Date: February 1966. Ebasco Services 1205-PER-620-A-3. INEEL index no. 761 -0620-00-205-123067

ID-33-F-99 PBF Reactor Building (PER-620) schedule of interior finishes includes name and number of each room on all three floors. Ebasco 1205-PER/PER 620-A-6. Date: February 1964. INEEL index no. 761-0620-00-205-123069

ID-33-F-100 PBF Reactor Building (PER-620). Detail of arrangement of high-density

blocks and other basement shielding. Date: February 1966. Ebasco Services 1205 PER/PBF 620-A-7. INEEL index no. 761 -0620-00-205-123070

ID-33-F-101 PBF Reactor Building (PER-620). Plan of wing on east side of reactor room. Experimental instrument room, test loop control room, process control room. Ebasco Services 1205-PBF/PER 620A-8. Date: October 1967. INEEL index no. 761-0620-00-205 -123071

ID-33-F-102 PBF Reactor Building (PER-620) expansion in 1978. Elevations and floor plan. EG&G drawing date: July 1978. INEEL index no. 761-0620-00-220-158120

ID-33-F-103 PBF Reactor Building (PER-620) expansion in 1978. Demolition details and floor plan. EG&G drawing. Date: November 1976. INEEL index no. 761-0620-00-220-158382

ID-33-F-104 PBF Reactor Building (PER-620) Cubicle 13. Plan, section, details. Note "quality assurance" code at bottom of drawing. Aerojet Nuclear Company. Date: May 1976. INEEL index no. 761 -0620-00-400-195279

ID-33-F-105 PBF Cubicle 13. Shield wall details illustrate shielding technique of stepped penetrations and brick layout scheme for valve stem extension sleeve. Aerojet Nuclear Company. Date: May 1976. INEEL index no. 761-0620-00-400-195280

SPERT-I and PBF Control Area

The following large format views, historical photographs, and photographs of architectural drawings are of SPERT-I, followed by a similar sequence for PBF, both in Control Area.

HAER photographs ID-33-F-106 through ID-33-F-126 are large-format photos taken in 2003 and 2004 prior to the demolition of the SPERT and Power Burst Facility Control Buildings. Dates are noted. The photographer was Mike Crane.

ID-33-F-106 SPERT-I Control Building (PER-601). Camera facing west. Gable facade is original control building. Addition beyond was built in 1956. Date: August 2003. INEEL negative no. HD-35-1-1

ID-33-F-107 SPERT-I Control Building (PER-601). Camera facing north. In center of view is connecting passage between original building and addition. Date: August 2003. INEEL negative no. HD-35-1-2

ID-33-F-108 SPERT-I Control Building (PER-601). Camera facing north. Date: August 2003. INEEL negative no. HD-35-1-3

ID-33-F-109 SPERT-I Control Building (PER-601). Camera facing southwest. Date: August 2003. INEEL negative no. HD-35-1-4

ID-33-F-110 SPERT-I Control Building (PER-601). Camera facing southeast. Date: August 2003. INEEL negative no. HD-35-2-1

ID-33-F-111	SPERT-I Control Building (PER-601). Camera facing northeast. Date: August 2003. INEEL negative no. HD-35-2-2
ID-33-F-112	SPERT-I Control Building (PER-601). Interior view of office hallway and doorway to vault (on right). Camera facing south. Date: August 2003. INEEL negative no. HD-35-2-3
ID-33-F-113	SPERT-I Control Building (PER-601) interior. Conference room. Camera facing north. Date: August 2003. INEEL negative no. HD -35-2-4
ID-33-F-114	PBF Control Area (PER-619). Contextual view, camera facing southwest from north side of Jefferson Boulevard. Facade with door and windows is east side. Facade parallel to road is north facade. Date: July 2004. INEEL negative no. HD-41-9-1
ID-33-F-115	PBF contextual view shows relationship between PBF Control Building (PER-619, in foreground at right) and SPERT-I Control Building (PER-601). Walkway with railing connects to waste reduction operations support building (PER-632), built in 1981. Note paneled stucco siding applied to PER-619 after 1980. Original concrete block is exposed at corner. Date: July 2004. INEEL negative no. HD-41-9-2
ID-33-F-116	PBF Control Building (PER-619). East facade, the "front" and main personnel entrance. Note higher roof level over west half. Walkway to PER-632 is at left of view. Date: July 2004. INEEL negative no. HD-41-10-1
ID-33-F-117	PBF Control Building (PER-619) south facade. Camera faces north. Note buried tanks with bollards protecting their access hatches. Date: July 2004. INEEL negative no. HD-41-10-4
ID-33-F-118	PBF Control Building (PER-619), west facade. Left-most window is in control room. Other windows serves office. Date: July 2004. INEEL negative no. HD-41-10-3
ID-33-F-119	PBF Control Building (PER-619), north facade. Note corner on left side, which is corner shown in detail in photo ID-33-F-115 above. Camera faces south from across Jefferson Boulevard. Date: July 2004. INEEL negative no. HD-41-10-2
ID-33-F-120	PBF Control Building (PER-619). Inside control room facing west. Photographer has closed venetian blinds at window to block bright sunlight from outside. Date: 1980. INEEL negative no. 80-2549
ID-33-F-121	PBF Reactor Building (PER-620) as seen from control room window in PER-619. Photographer stood just outside window. Note exposed communication cables on desert surface. Date: July 2004. INEEL negative no. HD-41-9-3
ID-33-F-122	PBF Control Building (PER-619). Interior of control room. Control console in center of room. Indicator panels along walls. Window shown in ID-33-F-120 is between control panels at left. Camera facing northwest. Date: May 2004. INEEL negative no. HD-41-7-3

ID-33-F-123 PBF Control Building (PER-619). Interior of control room shows control console from direction facing visitors room and its observation window. Camera facing northeast. Date: May 2004. INEEL negative no. HD-41-7-1

ID-33-F-124 PBF Control Building (PER-619). Interior detail of control room's severe fuel damage instrument panel. Indicators provided real-time information about test underway in PBF reactor. Note audio speaker. Date: May 2004. INEEL negative no, HD-41-7-4

ID-33-F-125 PBF Control Building (PER-619), Interior detail of control room instrument and readout panels. Camera facing northeast. Date: May 2004. INEEL negative no, HD-41-7-2

ID-33-F-126 PBF Control Building (PER-619). Interior in data acquisition room showing data racks. The system recorded multiple channels of data during tests. INEEL negative no. HD-41-8-1

Photos ID-33-F-127 through ID-33-F-136 are historical photos of the SPERT-I and Power Burst Facility Control Areas.

ID-33-F-127 View of landscape as seen from site of SPERT-I Control Area prior to beginning of construction. Terrain is flat. Photographer's note said camera facing "345 degrees bearing from control center." Photographer: R.G. Larsen. Date: November 9, 1954. INEEL negative no. 12902

ID-33-F-128 SPERT-I Control Building (PER-601). Pre-engineered metal frame building is erected, with metal siding on part of one side. Photographer: R.G. Larsen. Date: April 22, 1955. INEEL negative no. 55-1002

ID-33-F-129 SPERT-I Control Building (PER-601) with siding, roof, and entry vestibule completed. Photographer: R.G. Larsen. Date: May 20, 1955. INEEL negative no. 55-1292

ID-33-F-130 SPERT-I Control Building (PER-601) and, to the left, Gate House (PER-603). Photographer: R.G. Larsen. Date: June 22, 1955. INEEL negative no. 55-1699

ID-33-F-131 SPERT-I Control Area. Water storage tank with Well House (PER -602) under construction to its right. Control Building (PER-601) in background to right of tank. Photographer: Jack L. Anderson. Date: December 20, 1955. INEEL negative no. 55-3575

ID-33-F-132 SPERT-I Control Building (PER-601) interior. Control panel with data readout equipment in control room. Panels and equipment were fabricated elsewhere at NRTS during SPERT-I construction. Photographer: R.G. Larsen. Date: November 21, 1955. INEEL negative no. 55-3208

ID-33-F-133 SPERT-I Control Area. Contextual view of desert from control area to reactor pit and terminal building area 1/2 mile away. A four-inch water line is being installed between the two areas. Photographer: R.G. Larsen. Date: April 22, 1955. INEEL negative no. 55-999

ID-33-F-134 PBF Control Building (PER-619). Camera facing northwest at south facade. Concrete block construction. Photographer: Farmer/Capek. Date: March 17, 1967. INEEL negative no. 67 -1758

ID-33-F-135 PBF Control Building (PER-619). Camera facing northeast at west facade. Window at far end is in control room. Four closer windows are in office area, Date: March 17, 1967. Photographer: Farmer/Capek. INEEL negative no. 67-1755

ID-33-F-136 PBF Control Building (PER-619). Oblique view of south and east facades. Camera facing west. Photographer: Farmer. Date: May 8, 1975. INEEL negative no. 75-1589

Photographs ID-33-F-137 through ID-33-F-146 are architectural drawings of SPERT-I and PBF Control Area buildings. For plot and vicinity plans, see photos ID-33-F-87 and ID-33-F-92.

ID-33-F-137 SPERT-I plot plan for control area. Includes Control Building (PER-601), Gate House (PER-603), well sand settling tank, substation, and septic system. Date: February 1955. INEEL index no. 760-0101-00-396-109104

ID-33-F-138 SPERT-I Control Building (PER-601). Elevations. Note cable inlet on west elevation. Idaho Operations Office. Date: February 1955. INEEL index no. 760-0601-00-396-109143

ID-33-F-139 SPERT-I Control Building (PER-601) floor plan. Detail of cable inlet. Idaho Operations Office. Date: February 1955. INEEL index no. 760-0601-00-396-109139

ID-33-F-140 SPERT-I Control Building (PER-601) sections. Note center corridor. Idaho Operations Office. Date: February 1955. INEEL index no. 760-0601-00-396-109142

ID-33-F-141 SPERT-I Control Building (PER-601). Expansion plan shows extension to existing building and new building connected by narrow hallway. Date: April 1956. PER-104-IDO-2U. INEEL index no. 760-0300-396-109115

ID-33-F-142 SPERT-I Gate House at control area (PER-603). Floor plan, elevations, sections. This Gate House replaced the original gate house, for which drawings are no longer extant. F.C. Torkelson 842-SPERT-603-A-1. Date: February 1962. INEEL index no. 760 -0603-00-851-151336

ID-33-F-143 SPERT-I Electric Control Building (PER-608). Plan, elevations, and details. Gibbs and Hill, Inc. 1087-PER-608-S5. Date: August 1956. INEEL index no. 760-0608-00-312-108328

ID-33-F-144 PBF Control Building (PER-619) floor plan and elevations. Room numbers and functions. Roof plans for "high" roof and rest of roof. Ebasco Services 1205-PER/PER 619-A-1. Date: July 1965. INEEL index no. 760-0619-00-205-123022

ID-33-F-145 PBF Control Building (PER 619) sections and join details. Ebasco Services 1205-PER/PER 619-A-2. INEEL index no. 760-0619-00

-205-123023

ID-33-F-146 PBF Control Building auxiliary features, including fire hose house and sewage system. Ebasco Services 1205 PER/PER-A-4. INEEL index no. 760-0619-00-205-123024

Notes:

1. The historical photographs selected for this report are from Idaho National Engineering and Environmental Laboratory's Photography Archive. Negatives are stored at the Willow Creek Building or at the Inactive Storage Records Warehouse at Idaho Falls, Idaho. Negatives are indexed according to year, name of facility area, and sequence number. Most photographs are dated.
2. The original engineering drawings for SPERT-I and PBF building were destroyed within the last ten years or upon demolition of a building. The photographic copies in this report were made from microfilm aperture cards located at the Idaho National Engineering and Environmental Laboratory at the Engineering Research Office Building.
3. The INEEL photographic and engineering archives date from the earliest operations at the National Reactor Testing Station. They document construction progress, events, equipment and procedures, and periodic aerial surveys of the site. Most of these resources can be made available to the public for examination and reproduction.
4. For written historical and descriptive information on the SPERT-I and PBF reactor and control areas, please see main entry for Idaho National Engineering and Environmental Laboratory, SPERT-I and Power Burst Facility, the historical report for HAER ID-33-F. Additional images may also be found in the written report.
5. The INEEL Index Code for architectural and engineering drawings is composed of the following elements. Using the example 760-0601-00-396-109139:
   760: An NRTS/INEEL "area" number. In this case, the Control Area at the SPERT/PBF complex.
   601: The building or structure number at this "area."
   00: Classification code. In this case, 00 signifies "architectural: drawings.
   396: A code number for the originating contractor. This code number was assigned to the Idaho Operations Office.
   109139: A serial number assigned by the NRTS/INEEL Document Control system. This is the only unique number in a drawing's identification elements.
6. Numbers in the 600 and 1600 ranges were assigned to buildings roughly in chronological order of their construction. When 600 numbers were consumed, the sequence continued with 1600 numbers. Structures such as cooling towers and outdoor substations were given 700 and 1700 numbers.